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Army Joins Fight on Industrial Accidents

In an all-out effort to reduce the heavy accident lost-time toll on the production front, the United States Department of Labor and the Army Services of Supply have made a cooperative agreement by which the S. O. S. will utilize the services of the Labor Department's National Committee for the Conservation of Manpower in War Industries—a voluntary group of over 500 of the Nation's foremost safety experts, in addition to a small staff of full-time specialists. Last year the industrial accident toll brought a production loss of 251,000,000 man-days which was equal to the full time employment of 800,000 workers.

"The volunteer experts, employed by private industry, contribute an average of 20 percent of their time to contacting war plants as Special Agents of the Department of Labor, with the view of assisting in the organization of effective accident prevention programs, and to render technical safety engineering advice necessary to combat the serious effects of industrial accidents upon the manpower supply and upon war production," Secretary Perkins said in commenting on the plan.

"The Committee has been engaged in this work for more than 2 years, and from a test check made of nearly 1,000 plants, it was found that 66 percent, having received the advisory service of the Committee, showed a definite decrease in their accident frequency rates.

"The program is vital to the war production effort and is an excellent example of a unified cooperative approach to the winning of the war on the production front. Duplication of effort is removed and full utilization is made of a highly skilled group of safety engineers, of which there is today a critical shortage."

UNITED STATES DEPARTMENT OF LABOR

FRANCES PERKINS, Secretary

Manpower Needs and Available Labor Supply

Since the beginning of the present emergency in 1940, the Bureau of Labor Statistics has prepared periodically a series of estimates of employment and labor force required to meet the expanding needs of our war production program. Although these estimates are necessarily tentative because of the almost daily changes in the projected war program, they indicate in broad outline the magnitude of the manpower problem with which the country is faced.

Recent estimates of manpower requirements prepared by the Bureau of Labor Statistics point to an increase of 6.4 millions in the labor force between December 1941 and December 1943. The significance of a labor force increase of that size over a period of 2 years is suggested by the fact that the normal increment to the labor force, i. e., the surplus of new entries over retirements and deaths, is only about 700,000 annually. It will be necessary, therefore to draw upon not only the normal increment of 1.4 million but also an additional 5 million men and women who were not in the labor force in December 1941 and who, under normal circumstances, would not seek work.

The estimates indicate that approximately 20 million employees in nonagricultural establishments, or more than half of the total, will be engaged directly or indirectly in war production by the end of 1943. When contrasted with the estimated 6.9 million in war employment in December 1941, the forecasts indicate the transformation of the economy to a wartime basis.

In December 1943 more than 2 workers will be engaged in war production in nonagricultural establishments for each person in the armed forces. In addition a large part of farm employment will be devoted to supplying foodstuffs for the armed forces and for the United Nations. The remaining 25 million persons in the civilian labor force would be engaged in maintaining the civilian population of 126 million men, women, and children. New plans under discussion may result in a further decline in nonwar employment and a further increase in war employment.

The dominant factor underlying the estimated increase in the labor force is, of course, the anticipated growth of the armed services. Actually the increase in the armed forces (6.9 million) and the gain in employment (2.3 million) combined equal 9.2 million. The estimated decrease in unemployment of 2.8 million over the 2-year period accounts for the fact that the net increase in the labor force is placed at 6.4 million.

To some extent the real problems of recruitment and training are minimized by such over-all estimates. Table 1 shows that the net change in employment of 2.3 million is made up of increases totaling 6.6 million in a number of broad industry groups and declines totaling 4.3 million in other industry groups. In manufacturing and mining, most directly affected by war production requirements, the estimates indicate an increase in employment of 5 million in the 2 years, despite sharp declines in many manufacturing industries. Similarly, an increase in employment is required to fulfill war production needs in transportation, public utilities, and government, including public shipyards, arsenals, and depots.

TABLE 1.—*Estimates of manpower requirements*

	December 1941	December 1943
	Millions	*Millions*
Total labor force	56.1	62.5
Armed forces	2.1	9.0
Labor force excluding armed forces	54.0	53.5
Unemployed	3.8	1.0
Employed	50.2	52.5
Agriculture	8.3	7.9
Nonagriculture	41.9	44.6
Self-employed, proprietors, domestic servants	5.8	5.0
Employees:	36.1	39.6
Manufacturing and mining	14.6	19.6
Contract construction	1.9	1.0
Transportation and public utilities	3.3	3.7
Trade and services	11.7	9.3
Government	4.6	5.8
Employees (nonagricultural):	36.1	39.6
War employment	6.9	20.0
Nonwar employment	29.2	19.6

Source: Bureau of Labor Statistics and Bureau of Employment Security.

These demands for labor will be partly met by declines in employment in industries such as construction, trade, and services, which are adversely affected by the demands of a war economy. In the first 2 years of the war, contract construction expanded markedly as new facilities were built and materials were available for private construction. The program of expansion, however, has

now passed its peak and the shortage of materials demands curtailment of any nonessential construction. As a result, it is expected that employment in the field of contract construction will decline by 1 million. Curtailment in civilian goods production and voluntary withdrawal of workers will also result in a decrease of about 2.2 millions in trade and services and a decline of 800,000 in the number of self-employed, proprietors, and domestic servants. Agriculture presents a special problem. Despite the decline in agricultural employment anticipated at the year's end, it is expected that summer seasonal peaks will be maintained because of the growing demand for agricultural products.

The net increases in employment anticipated in the expanding war industries do not reveal the full extent of the recruitment and training problems in industry for another reason. In manufacturing alone, for example, an increase of 7 million workers will be required between December 1941 and December 1943 if manufacturing establishments are to increase their employment by 5 millions and send 2 million men to the armed forces. The impact of the draft and enlistments is equally serious in agriculture, which would provide about 1 million men to the armed services in the absence of special deferments to ease the farm labor problem.

As was pointed out the required increase of 6.4 million workers between December 1941 and December 1943 will come from two sources. Approximately 1.4 million men and women will become workers as part of the normal labor force growth during the 2-year period, and the remainder—about 5 million—must be supplied from the "nonworkers"—such persons as students and homemakers who normally would not participate in the labor market.

The bulk of the additional workers needed will be supplied from women now engaged in home housework, who constitute about two-thirds of the 45 million nonworkers 14 years of age and over. If numbers alone were considered, it would be possible to take the entire 5 million extra workers from homemakers under 45 years of age who are not responsible for the care of children under 16. This however would leave a reserve of homemakers without children under 16 years of age consisting almost entirely of women over 45 years old. If we are to be in a position to expand our war effort still further in 1944, we must give special attention this next year to the hiring of large numbers of women over 45 years of age. In addition to these women there are untapped reserves of about 2 million students aged 18 and over and about 14 million homemakers with children under 16—four-fifths of whom are concentrated in the age group 20–44 years.

The estimated labor reserves available from homemakers and students at the beginning of 1942 may be summarized roughly as follows:

	Millions
Homemakers (total)	30. 1
Without children under 16	16. 3
14–19 years of age	. 6
20–44 years of age	5. 5
45 years and over	10. 2
With children under 16	13. 8
14–19 years of age	. 5
20–44 years of age	11. 3
45 years and over	2. 0
Students (aged 14 years and over), total	8. 8
14–17 years of age	6. 9
18 years and over	1. 9

These totals provide ample evidence that overall labor supply will not limit the required expansion in the labor force. Actually, however, recruitment of workers with required skills and in areas where they are needed presents a critical problem. In short, there is a plentiful supply of potential workers, but it will be a major manpower job to recruit them, train them, and place them where they are needed.

Wartime Safety and Health Program

At a meeting of the National Committee for the Conservation of Manpower in War Industries in Washington this month, the extent of the problem, past progress, and future plans were reviewed. The accident toll for 1941 stood thus: 19,200 dead, 15% of whom, it is estimated, were highly skilled workers impossible to replace quickly; permanent injuries 100,600; temporary disabilities 2,060,400 lasting for an average of 20 days each; total days lost 251,000,000, the equivalent of full-time employment of 800,000 workers. Highlighted by the present manpower shortage, this figure takes on new significance. Lieutenant-General William S. Knudsen has said:

> I ask you to pledge with me that so far as it is within our power to prevent accidents, no battalion on the fighting front shall suffer because of lost battalions on the production front.

Too many battalions were in 1941 still being lost on the production front.

As a result of the consulting service rendered to war plants by the Committee's special agents and paid staff, striking progress has been made in certain plants in improving accident experience, thus indicating that the alarming upward trend of recent months can be brought under control.

In numerous plants both the frequency and the severity of accidents have been lowered even while employment has expanded. For example one plant with 250 employees had a frequency rate of 48.0 and a severity rate of 0.39 before the first contacts were made; on the basis of a plant study, detailed suggestions were made to the management which enabled this plant to double its labor force and to reduce the frequency rate to 3.42 and the severity rate to 0.12.

At another plant the first visit revealed a very high frequency rate. A series of recommendations were made and adopted including employment of a full-time safety director, holding supervisors' safety meetings, additional first-aid facilities, and improvements in general plant conditions, resulting in a reduction of accidents from 60 a month to 10 (a drop of more than 80 percent).

A company employing 300 reported an accident frequency rate of 18.12. The representative of the Committee laid out a plan for management and discussed the matter with the insurance carrier. Although subsequently employment more than tripled, the frequency rate came down by two-thirds. There is now a complete 3-shift safety organization and a first-aid room operating on a 24-hour basis.

Many other similar instances can be cited. The training courses for safety engineers conducted by the Office of Education and the Division of Labor Standards are showing tangible results in these improved accident statistics. During the next year it is contemplated that 27,000 supervisory personnel will pass through these training classes, in addition to the 23,160 trained during the past year. These potential safety experts—foremen, department superintendents, union committeemen, and workers out of the ranks—will stand guard on day shifts and on night shifts in every major war plant against factory dangers and unsafe methods of work. They will watch every machine and every worker, find out the safe way to do each job and insist that it become a habit to do it that way. Safety courses are also being developed to fit the special needs of the Army Services of Supply, the Engineers' Corps, the Army Air Force, as well as the Maritime Commission and the Navy's Shore Establishments Division.

TO SAFEGUARD RUBBER WORKERS

The Department of Labor has been instrumental in bringing together an outstanding group of management and labor representatives with scientific and engineering authorities to discuss engineering control of toxic fumes in the synthetic rubber industry. Fumes which may endanger the health and even the lives of workers are a menace in this industry. Synthetic rubbers are essential for the production of self-sealing fuel tanks, tires, balloons, boats, pontoons, raincoats, etc. At this meeting the leading companies reported on effective methods of diluting and removing the fumes by ventilation and local exhausts.

Following the meeting the Division of Labor Standards has been developing a program for improving the safety installations and engineering practices in plants converted to the manufacture of synthetic rubber.

SAFE HANDLING OF NITRIC ACID

The Department of Labor is issuing a series of pamphlets (also available in poster form) on hazardous substances used in war industries. Each describes the special hazards involved, the protective clothing needed, the safe methods of working with or handling the substances, and tells what to do in case of accident and injury. The first of these publications deals with nitric acid, a substance used in the chemical industry. It may be requested as Special Bulletin No. 9, prepared by the Division of Labor Standards.

Coordination of State and Federal Activities

In order to reduce duplication of inspections and to make fullest use of trained personnel available for safety and health in war plants, a plan has been developed for coordinating the promotion and enforcement activities of Federal and State agencies. Participating agencies are: The Wage and Hour and Public Contracts Divisions and the National Committee for the Conservation of Manpower in War Industries of the United States Department of Labor, and State labor departments.

Minimum standards which a State labor department must meet in order to qualify as a cooperative agency are as follows: The State must have (1) safety, sanitation, and health laws and regulations covering specified working conditions; (2) sufficient qualified staff to insure a complete inspection of plants subject to the act at least once a year; (3) an accident reporting system; and (4) an adequate inspection reporting system which shall be open to the United States Department of Labor.

Informal cooperative agreements have been developed to date for the following States: Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, North Carolina, Michigan, Wisconsin, Minnesota, California, Oregon, and Washington. Additional States are expected to be included shortly.

In general, these plans provide on the one hand for utilization of State staff to make safety and health inspections under the Federal Public Contracts Act; and on the other hand for close cooperation between the State labor department and the State advisory committee of the National Committee for the Conservation of Manpower in War Industries in developing plant safety programs and in arranging for safety courses and conferences throughout the State.

Legal authority for the plan rests on section 4 of the Public Contracts Act, which authorizes the Secretary of Labor to use State labor departments to assist in the administration of the act. Section 1 (e) of the act provides that compliance with the safety, sanitary, and factory inspection laws of the State is prima facie evidence of compliance with the safety requirements of the act.

Under the plans the State accepts responsibility for making safety inspections. A brief report is submitted to the Wage and Hour and Public Contracts Divisions on the compliance status of each plant inspected.

Adjusting State Labor Laws to War Needs

Reports sent in by State labor departments on applications for variations from hours laws for war production indicate that there has been some change in the nature of the requests. For instance, New York reports that there has been an increase in the number of applications to employ women at night in order to make possible multiple shifts, instead of employing women longer weekly hours on a one-shift schedule during the day. Evidently New York employers have made progress in training the supervisory force needed for multiple shifts and are now able to make more extensive use of available equipment on a "round-the-clock" work schedule which does not subject individual employees to the fatigue caused by long hours. Another trend apparent in New York concerns permits authorizing 7-day weeks. A report issued by the New York Department of Labor on the operation of the State War Emergency Act during the first 6 months of the war states that:

> Immediately upon our entrance into the war, manufacturers who could not obtain additional skilled help or equipment at once requested permission to employ men and sometimes women for 7 days of the week in order to meet the increased demands of the Army and Navy for war material. Up to the end of May three out of four dispensations from the day-of-rest law permitted the employer to use his workers continuously without a day of rest if maximum production in that plant would be facilitated by such a work schedule. During June and July, however, 86 percent of the dispensations from the day-of-rest law permitted the employer a 7-day week schedule for his employees only a limited number of times during the term of the dispensation in order to meet emergencies or to facilitate production in bottleneck processes. This change in the permitted work schedule coincides with the present needs of plants making war materials in that a day of rest for each employee is scheduled in order to provide the relaxation and rest which are required for maximum production over a long period and at the same time provision is made for emergencies, repairs, or breakdowns when a 7-day week may be worked.

Later information from New York confirms the trends reported during the first 6 months.

In California labor shortages have developed in certain areas which have affected the supply of unskilled as well as skilled labor for emergency needs. The number of applications and the number of permits granted for 7-day weeks and for hours in excess of 48 a week has increased. The change in the rate at which applications have been received and permits granted is shown below:

Period	California action on requests for—	
	Longer weekly hours	7-day week
Dec. 7–May 31 (6 months).	29 applications; 10 permits.	6 applications; 4 permits.
June 1–Aug. 31 (3 months).	62 applications; 47 permits.	17 applications; 16 permits.

Most of the permits granted in California have been for very short periods, frequently not more than a week. California, like other States, reports an increase in the use of women on multiple shifts. During the first 6 months only 34 permits were granted authorizing the employment of women after midnight, but during the next 3 months 86 permits for night work were issued.

In Pennsylvania the peacetime regulation of 44 hours a week for women and minor employees has been modified to allow 48 hours, under a ruling of the State Industrial Board. Since Pennsylvania permits do not permit weekly hours in excess of 48, they have served to expedite the

adoption of multiple-shift operation by war industries in that State. The Pennsylvania Department of Labor and Industries reports an increase in the rate at which permits have been granted both for longer weekly hours (up to 48) and for night work, as follows:

Period	Pennsylvania action on requests for—	
	Longer weekly hours	Night work
Dec. 7–May 31 (6 months).	363 applications; 362 permits.	273 applications; 273 permits.
June 1–Aug. 31 (3 months).	252 applications; 252 permits.	252 applications; 252 permits.

Connecticut reported a decline in the number of permits granted for longer weekly hours; the permits granted for two- or three-shift operation have remained more constant during the 9-month period.

Period	Connecticut action on requests for—	
	Longer weekly hours	Night work
Dec. 7–May 31 (6 months).	243 applications; 210 permits.	201 applications; 193 permits.
June 1–Aug. 31 (3 months).	71 applications; 58 permits.	84 applications; 81 permits.

Applications for night-work permits have been denied in the main for two reasons: either because the application was made too far in advance of the need or because the request was for employment of minors.

Applications for shorter meal periods than required by law have been reported by Kansas, Wisconsin, New Jersey, Ohio, and New York. A number of permits have been granted for a 30-minute meal period by States requiring 45 minutes or 1 hour. Under unusual circumstances permits have allowed less than 30 minutes for lunch.

State Legislative Programs for 1943

An analysis of legislative programs now being prepared for the State sessions in 1943 shows that chief emphasis is still being given to programs for building up labor standards. Many States will press for more adequate safety codes and better safety inspection services. The shifts in industries occasioned by the war, use of new processes and materials, and the introduction of inexperienced workers into the labor market, according to the report, have greatly intensified the need for improvements in this type of legislation. Demands will also be pressed in a number of States for wage-collection laws, State wage and hour laws, labor relations acts, stronger State departments of labor, and for more adequate workmen's compensation acts, including compensation for occupational disease.

The shift in industries occasioned by the war has brought home to some of the agricultural States the need for more complete safety codes and better inspection services. The Nebraska State Federation of Labor reports:

> Due to the large influx of defense industries into our State, it is our intention to increase the State Department of Labor to permit a more thorough program of accident prevention to be carried on by the State Department of Labor. The State Department has never been able to cover the ground and we are hoping that the citizens of our State as represented in the legislature will be impressed with the need for such an increase as a result of the many thousands of men now being employed in industry.

While labor organizations and State labor departments have alike taken the position that there must be no interference with war production from unnecessarily restrictive legislation, there is a firm conviction that the laws themselves must stand and that there should be no cut in standards that will affect health. The New York State Federation reports its stand thus:

> We anticipate that because of labor shortage there will be an attempt made to either repeal the provisions of the labor law regulating and limiting the hours of employment of females and minors, or to extend the existing dispensation act which now applies only to war work to all other industries not engaged in the production of war materials. Organized labor in the State of New York will resist any attempt to further break down or grant to any Government agency further authority to suspend provisions of the State labor law.

In Texas the Commissioner of the Bureau of Labor Statistics is pressing for a well-rounded program. He writes:

> Our problems concerning safety, health, and working conditions have tremendously increased. [Texas too has had an influx of war activities] and we are experiencing some difficulty in maintaining proper service due to limited personnel.
>
> As the average wage in Texas has always been below standard, we find that considerable attention has been focused on this problem, and by reason of that fact, I believe that a minimum-wage law, at least for women and children, stands a good chance of receiving some attention by our next legislature. A strong effort will also be made to secure a revision

of our child-labor law, a revision of our wage-collection law (to authorize the labor commissioner to take the assignment of wage claims and to collect for worthy claimants), an industrial safety code, and an apprenticeship law.

Substandard wages and long hours are still reported, particularly in intra-State service industries. The Labor Commissioner writes from West Virginia:

> The situation in regard to the employment of women in industry (intra-State) is tragic. With the exception of safety and sanitation regulations there is no regulation whatsoever in regard to hours or wages. Many and pitiful are the communications from these women, complaining of long hours, from 10 to 16 hours per day at $6, $8, and $10 per week.
>
> Every effort will be made and the support of labor organizations and women's organizations solicited to influence the enactment of legislation that will afford the same protection to these women that prevails in the industries engaged in interstate commerce.

The same State reports favorable reactions from the public on a tightening up of administration of the limited laws under its jurisdiction—an experience that has been duplicated elsewhere:

> Within the past 15 months, after prosecution in 95 cases with convictions in 94, both the Department and the laws under its jurisdiction are given serious consideration and we have gained the respect, if not the admiration, even of those who have been prosecuted.

Amendments to the workmen's compensation laws are still the most numerous and complex items on these legislative programs. Labor organizations and administrators are constantly on the alert for defects that prevent workers from realizing the full benefits intended, or for improvements that speed up the administrative mechanisms. The effort to extend coverage, secure adequate scales of benefits, assure unlimited medical care as needed, and establish State funds continues in war as in peace. Increasing exposure of inexperienced workers to new dangers in war industries keeps the subject of workmen's compensation always to the fore. As examples of the programs in this field, the New Mexico Industrial Commission will ask the legislature to consider:

> Administration of the law by commission instead of the courts.
> Making the law mandatory instead of elective.
> Consideration of occupational diseases.
> Amendment liberalizing law in cases of fatal accidents to single persons (present benefit is limited to $150 for funeral expenses).

The North Dakota Labor Commissioner reports that:

> Tentative plans for the coming legislative session include amendments to the workmen's compensation act providing that contractors be liable for compensation on employees of subcontractors and owners of property liable with the contractor and subcontractor; placing responsibility for payment of claims on compensation bureau when employer has failed to comply with provisions of law requiring cumpulsory coverage.

The accompanying chart shows under very general headings the type of law that will be sought by labor organizations, both A. F. of L. and C. I. O., and by State labor departments in more than half the States whose legislatures meet in 1943. It has been compiled by the Division of Labor Standards from letters received, from reports of convention proceedings, from items in the labor and general press. While incomplete, it is at least indicative of where the emphasis will be put. Particularly significant are the number of States in which efforts will be made to secure more adequate safety laws.

Type of Legislation to be Sought in 1943

	STATE	TYPE OF LEGISLATION														
		State wage-hour law	Minimum wage	Prevailing wages on public works	Wage collection and wage payment	Hours standards	Child-labor laws	Industrial home-work regulation	Safety and health measures	Compulsory health-insurance law	State labor-relations law	Mediation and conciliation	Workmen's compensation amendments	Apprenticeship standards	State department of labor law	
1	Arizona					√							√			1
2	Arkansas								√		√		√			2
3	California		√	√							√		√			3
4	Connecticut	√							√		√		√			4
5	Georgia	√		√	√				√		√	√	√			5
6	Illinois	√			√				√		√		√			6
7	Kansas	√		√	√				√		√	√	√			7
8	Maine		√			√	√	√	√				√			8
9	Michigan	√								√	√		√		√	9
10	Montana								√		√		√			10
11	Nebraska		√										√			11
12	Nevada				√					√	√		√			12
13	New Jersey	√		√							√		√	√		13
14	New Mexico				√	√			√		√	√	√			14
15	New York		√	√									√			15
16	North Dakota				√	√	√					√	√			16
17	Ohio								√				√	√		17
18	Oklahoma				√	√			√				√			18
19	Oregon								√				√	√		19
20	Pennsylvania				√						√		√			20
21	South Dakota	√											√		√	21
22	Tennessee					√							√			22
23	Texas		√		√	√	√	√	√				√	√		23
24	Washington			√					√				√			24
25	West Virginia	√				√	√		√							25
26	Wisconsin				√				√				√			26
27	Wyoming				√		√									27

Tailoring the War Job to Fit Women Workers

The shift of jobs from men to women has sometimes required engineering changes which have also resulted in greater operating efficiency and production. Ingenuity may be necessary to adapt a job to a woman but, by reducing fatigue elements, the job is improved basically for either a man or woman operator. How some firms have worked out some of their problems is indicated in the following:

1. Engineers of a middle-western company converted an old standard arbor press into an air-operated machine which stakes screws in a 20-millimeter shell booster. The results of the air-powered machine were a definite saving of time and elimination of the fatigue resulting from the operation of a manually operated press. The staking machine is operated by a young woman who was on a machine for making loose-leaf binders before her employment on war work.

2. Suspending an air-operated wrench from a counterbalanced support eliminated the necessity of lifting and handling it. A woman replacing a man in the use of the wrench was able to operate two such counterbalanced air-driven wrenches simultaneously instead of the one formerly operated by the male employee.

3. Engineers of a machine-tool company put a new lever on a special spinning lathe so that it could operate with 70 percent less exertion than before. An operation thought to be exclusively male became woman's work.

4. The same machine-tool company attached multiple spindles to milling machines, making it possible for a girl to operate four machines with fewer steps from one to another.

5. Special planning for adjustable seats for women and provision of wooden platforms for women operators to stand on are all that are needed to make certain machine operations by women not only feasible but efficient.

Breaking down operations to segregate heavy work which then may be accomplished by mechanical means or by one unskilled male laborer for a group of women is a main consideration in adapting work to the employment of women. What can be done by use of mechanical devices to lighten heavy work has been demonstrated in the plants described in the following:

Using roller conveyors and pedestal lifts, women in a British munitions plant carry on all the operations following forging on a 180-pound shell. Hand-operated lifts are used to transfer the 180-pound forging to the rough turning machine. A movable bench tray attached to the side of the conveyor and a similar tray swinging from the fuze-hole boring machine enables the operator to slide the shell into the machine. A roller at the tip of the tray further lightens the effort of sliding the shell. The shell is lifted from the roller conveyor by means of a pedestal lift and swung across the aisle into the finish turner. A simple hand-operated lift enables a girl to slide the shell over the scales and lower it into weighing position. A similar hand lift permits the shell being raised easily from the bench, transferred to the copper band press and lowered into it. From the copper band press the shell is lifted by the same simple mechanism to the thread miller.

In an American machine-gun factory jobs have been carefully suited to women operators. Strain tests indicated that for continual lifting, fatigue for the average girl weighing 120 pounds was excessive if the weights were over 18 to 21 pounds. For occasional lifting 35 pounds is allowable. On the basis of these tests new light-weight fixtures were designed to replace heavy arbors on one job and conveyors were installed to slide parts from one machine to another eliminating lifting of tote boxes. Fixtures and bench vises were installed, designed to hold parts for filing, making the work not only less strenuous but easier on the hands. The pounds of pressure required to slide the work on the beds of drills was reduced by installing four buttons under the jigs, thus eliminating suction created from sliding the flat surface of the fixture on the flat surface of the bed of the machine.

In an aircraft plant steel jigs too heavy for women to lift were replaced with masonite jigs weighing less than one-tenth as much.

Where pieces weighing up to 37 pounds were put in the machines, placing tables by the machines eliminated the necessity for lifting the material from the floor and made it possible to employ girls. In this case it was necessary to employ boys to keep the tables filled for each group of machine operators.

In the inspection of a 23-pound unit, two men had been required. The use of a conveyor belt made it possible to use women for this inspection.

Such retailoring of jobs to suit them for women extends greatly the list of jobs in which women can be proficient. Just as important, it can increase the effective use of women on the job and maintain their health. Reengineering of jobs is important today in the conversion to war products and in the planning for higher production. As part of this general work of reengineering, special attention should be given engineering for the effective use of women.

The thousands of jobs on which women are now employed in war industries are summarized in a list recently prepared by the United States Women's Bureau, representing typical operations women perform in factories, arsenals, air fields, ordnance and supply depots, navy yards, shipyards, and sawmills.

The list is classified to show how extensively women are used. The Bureau states that the number of women could be increased on some of the jobs if further training were given by job in-plant training, or preemployment or supplementary courses (the National war training program), and upgrading. Women usually are machine operators, doing semiskilled and repetitive work, but they are to a greatly increasing extent being trained on skilled operations and taught to set up their own machines.

Women are now employed extensively on the following:

Drill presses (single and multiple spindle).
Milling machines (light and medium, and micro machines).
Bench and watchmakers' lathes.
Light punch and forming presses.
Power sewing machines.
Burring, polishing, lapping, buffing, etc., on lathes, drill presses, polishing jacks, etc.
Hand finishing machined parts by filing, burring, lapping.
Soldering.
Electrical work—wiring and assembling parts, winding coils and armatures, soldering, taping, etc.
Assembly—all types of light subassembly and final assembly (often requiring the use of hand tools as pliers, mallets, screw drivers, files, electric drills, bench assembly machines, and riveting presses).
Artillery ammunition loading (bag and shell loading, fuzes, primers, etc.).
Operations on bullets, cartridge cases, and primers in small-arms ammunition.

Painting—touch-up and hand finishing, radium, stenciling, masking before painting, racking, and unracking.
Inspection—visual, gage, micrometer, or caliper (sometimes with blueprint reading).
Nursing.
Welfare.

From information received by the Women's Bureau from week to week, it seems reasonable to expect that women will replace men on most of the operations listed below. Up to this time women have been used on such jobs to a limited extent.

Light turret lathes and hand screw machines.
Grinding machines (surface, cylindrical, and internal).
Gear-shaping, cutting, and hobbing machines.
Miscellaneous machines: Profilers, shavers, nibblers, shapers, routers.
Optical and ophthalmic glass grinding and polishing.
Sheet metal forming and riveting.
Welding—acetylene and torch, spot.
Servicing and repairing airplanes at air depots (ground mechanics).
Painting—spray painting small parts and products.
Inspection—calibrating, checking, and testing raw materials, stock, and salvage parts.
Packing—labeling, etc.
Timekeepers, stock record clerks, and other factory clerks.
Tool crib and stockroom attendants and dispatchers.
Personnel administration—director, assistant director, assistant.
Employment—interviewing and hiring employees.

Women are used to only a slight extent in the following:

Automatic screw machines.
Woodworking machines: Saws, sanders, shapers, profilers.
Nailing machines.
Welding—electric arc.
Shipfitters and loftsmen.
Production planning, routing, and control.
Draftsmen and tracers.
Crane operators.
Guards.
Electric truck drivers, intraplant loading and hauling.
Foreladies, leadwomen, group leaders.
Instructors for in-plant training.
Hand gluing (for example, plywood parts).

Tradition which has excluded women from training for many of these jobs limits the number now found on some operations. The heavy nature of the work under existing conditions is a factor against the employment of women in other occupations, but this too may change with engineering developments.

More extensive and more intensive training will be necessary for women to be up-graded from the simpler operations to the more complicated, more technical, and supervisory jobs.

Women's Work on Artillery Ammunition

Women are well suited to many jobs in the production of artillery ammunition, a recent extensive Women's Bureau survey indicates.

In the period from November 1941 to April 1942, visits were made to plants making and loading powder bags, assembling and loading shells and cartridge cases, or assembling small parts such as fuzes, boosters, primers, and detonators. The machine-sewing of bags or the work on small, often delicate parts, are jobs closely allied to those long considered women's work, as for example in garment factories or radio manufacture.

Many of these plants were put up in small towns in what had been chiefly rural areas, so that there was little chance to find women experienced even in these allied types of work. This meant that in many instances a working force was built up of young women without factory experience. This was done chiefly through training in the plant, though in some instances some preemployment training was available.

In at least 10 plants it was thought that from two-thirds to 80 or 90 percent of the labor force would be women; in 5 plants, 30 to 40 percent; in 2, less than 20 percent. These differences depended on the product. Bag-loading plants and those making small components of ammunition required the greatest ratio of women.

At the time of the survey more than 25,000 women were at work. Eventually, at peak production with all plants in operation, a total of 100,000 women are expected to be employed. These figures include office workers and other groups negligible in numbers such as nurses, cafeteria workers, and matrons. In general, with plants in full operation not more than one-tenth of the women will be on clerical jobs.

The processes on which women worked were many, and varied with the nature of the product. Probably hundreds of different operations are necessary to complete all the many types and varieties of components. Work was done by hand, with hand tools, and by machine. Only a few of these extremely varied processes may be described to indicate the general nature of the work.

In one plant women were doing practically all the work in a section where percussion elements were being loaded with primer mix. With the aid of tweezers one woman was picking up very small paper disks and weighing them on a fine scale to be sure that only one disk at a time was being used. The next woman in line was putting a drop of shellac in each primer "housing" or cup and inserting a disk. After one or two other small operations women were putting the wet primer

mix in the cups. Then, after the covers had been placed over the cups, each one was inserted under a press. Women were operating the presses. The excess primer mix was then wiped off and the completed elements were placed in trays to dry.

Women were engaged in such jobs as the sorting of small pieces, the inserting of disks, washers, springs, or wires into metal cups or containers, the screwing together of different small parts, and the placing of tiny pieces in holes or depressions in parts of somewhat larger size.

The many small parts necessary for a complete fuze must be assembled in exactly the right way so that the fuze will be sure to function properly and at the right time. Parts received from other plants are inspected at the beginning of operations. Sometimes completely assembled fuzes, except that they are unloaded, are received from other plants, and these must be disassembled as well as inspected.

Women were doing practically all preliminary inspection and a great deal of other visual inspection in looking for surface defects. In a few instances magnifying glasses were being used. Women were using micrometers and various types of gages to check the dimensions, as well as scales to check the weight, of parts and completed assemblies. In two plants women were testing primer bodies for holes by sitting in a completely darkened room and holding the bodies over a small electric-light bulb.

Women were employed generally to load cartridge cases with propelling charges. Smokeless powder for fixed ammunition was being weighed and check-weighed on shadowgraph scales. Women were doing this work and also pouring the powder into cartridge cases.

Women almost exclusively were employed for jobs other than cutting in the bag-making departments. Much the largest number, of course, were sewing pieces of bags together on power sewing machines. The small pieces were sewed together carefully and securely, with seams of the proper kind and a small opening left in each bag so that it could be filled with powder. Some women in these departments were operating the printing presses used to stamp lot numbers and other necessary data on pieces of the bags before they were sewed together. A good many women were trimming and counting the bags after the sewing had been done, and still others were inspecting the completed bags. In the bag-loading departments women were working in small groups, weighing powder, check-weighing it on shadowgraph scales, and pouring the powder through a funnel into the small openings left in the bags. Then these openings in the bags were closed by women operating sewing machines with bronze needles. Women in another department then inspected and trimmed the loaded bags, and other women assembled and laced them together according to specifications.

It is recognized that there are hazards involved in working with explosives, also dangers from poisoning or infection from various toxic substances such as trinitrotoluene (TNT), tetryl, and lead azide. However, safety measures seemed to be well worked out and doctors, nurses, and first aid were available in the plants.

While men usually operated the presses that made the black powder pellets, this was done by women in one plant. Each press was in a separate room, with a door equipped with a safety device so that it could not be opened while the machine was operating. After setting the press the woman left the room and turned a switch on the outside. Operations could be watched through a peephole in the thick wall.

Some women were inserting tetryl or black powder pellets in containers. This in itself is not difficult, though necessarily hazardous and, in the case of tetryl particularly, there is danger of infection or poisoning.

Several lines were visited in which women were engaged in various operations necessary in the loading of detonators. They were weighing powder, generally lead azide or fulminate of mercury, and using tiny ladles to load it into cups. Sometimes more than one kind of powder was used in detonator loading and then the charge was consolidated by means of a press. The powder used in detonators is highly explosive and can be set off suddenly, so each operator doing the loading was working behind a barricade containing a glass panel. However, in order to do the loading the operator ordinarily must insert one hand and arm behind the barricade.

The new buildings generally are provided with many exits. For example, in one rather typical building visited it was noted that there were doors near each end of every work table. The buildings usually were only one floor in height; but in instances where buildings had more than one floor, chutes had been provided down which workers could slide from the second floor in case of emergency.

Safety education is, of course, one of the most important types of training given to workers in such an industry. In addition to the preliminary work with inert materials, plants constantly instruct workers concerning safety measures, as well as various types of operations to be performed, by means of lectures and motion pictures. Special manuals and instruction books also are issued to employees.

National War Labor Board Directs Equal Pay

The policy upholding equal pay in fixing wage scales of men and women now has had official recognition by the National War Labor Board. In cases decided in September involving the General Motors and the Brown & Sharpe companies, the Board directed the unions and employers to negotiate contract provisions applying this principle. In the last-named case the opinion supporting the Board's order stated:

> Our country will depend more and more upon its women to produce the materials with which its men will fight. In calling upon American women to assume a vital role on the industrial front, the country has an obligation to provide the utmost assurance that they will not be subject to discriminatory treatment in their compensation. They have a right to economic equality. * * *
>
> Female employees assigned to the same operation which has been or which is performed by men should receive the same pay when they produce the same quantity and quality of output.

Unions asking for the equal-pay decision in the General Motors cases were the United Automobile, Aircraft and Agricultural Implement Workers of America, and the United Electrical, Radio and Machine Workers of America. The union interested in the Brown & Sharpe case was the International Association of Machinists, which has admitted women to its ranks for the first time during the past year. The next step is for employers and unions to place an equal-pay clause in their contracts.

Government authority has been consistently behind equal pay for men and women for more than 40 years past. Quite recently the War Production Board, the Army, the Navy, and the Labor Department advocated that: "Wage rates for women shall be the same as for men, including the entrance rate." This follows the World War I policy, when the Labor Department announced the same principle and the Army issued orders to arsenal commanders and manufacturers filling war orders that: "The standards of wages hitherto prevailing for men in the process should not be lowered where women render equivalent service."

The Woman in Industry Service in the United States Department of Labor, organized in 1918, which became the Women's Bureau of the same agency created in 1920 (first Federal authority on matters pertaining to women's work in industry), has upheld the important standard that: "Wages should be established on the basis of occupation and not on the basis of sex."

The equal-pay principle was applied in more than 50 of the cases decided by the National War Labor Board in World War I. The largest numbers of these concerned women's work on street railways and in steel, machinery, or metal plants, but the cases also included other industries—chemical, electrical, paper, food, laundry.

Outstanding among recent union contracts that contain an equal-pay clause is that negotiated by the electrical workers (active in the General Motors case) for the 33 Westinghouse establishments. It defines men's jobs as those performed by men before December 7, 1941, and provides that "women assigned to such jobs during the war emergency shall receive key-sheet rates of pay equal to those received by men under similar circumstances." The Amalgamated Association of Street, Electric Railway, and Motor Coach Employees has established and long maintained this principle. Recently it was upheld in a strike to keep up wage rates for women cleaners of the Greyhound Bus Co.

Employers recognize equal pay as a reasonable policy, but the words in which it has been modified in the past have been the subject of endless discussion. Without a good analysis of the actual requirements of work on the individual job performed, no exact wording can be found that assures a real fitting of women workers' pay to the jobs they do. Efforts made by various agencies in the past to define the old term "equal work" have used the words identical, the same, similar, equivalent, corresponding, essentially identical, comparable, kindred, essentially similar, substantially or appreciably the same, similar in all material respects, and so forth. None of these wordings is in itself much better than any other. The surest method of decision on wage rates is through a really good job study. As the National War Labor Board has stated in its opinions in the recent cases cited above, the principle of equal pay—

> must be worked out in individual situations by parties who cooperate in good faith to secure the desired objectives.

More often than not, some slight changes in the job are made when women are to be employed, but in many cases these are even less extensive than those continually being made by progressive managements to fit new industrial techniques or an expanding labor force.

A lighter jig or other machine part sometimes is installed, or move men or material handlers (laborers) are put on, or machine lifts, checks, or automatic stops are added. Such changes are in line with the general progress of industry, which increasingly uses the machine for the heavier processes. Thus the workers' time and energy are further released for performance of the more skilled parts of the task. Changes of such types increase the workers' efficiency and output; they are not properly chargeable against women workers in the form of a lower wage. If anything, the job as newly organized may be worth even better pay than the processes as earlier performed.

Sometimes the work organization is rearranged so that larger numbers of persons make up a work

unit. This in fact may mean considerably increased output per work unit or per worker. If this is true, the added numbers of persons in the work unit should not be considered a reason for paying to women a rate less than before paid to the men performing much the same processes within the unit. Again it should be remembered that the addition of material handlers or other laborers releases the time and energy of the other workers—men as well as women—for the more skilled parts of the process, and increased output often is the result of this fact. In its opinions in one of the recent cases referred to above, the National War Labor Board deals with these phases of the subject in the following terms:

* * * The employment of women workers may entail extra supervision, extra set-up men, or additional carry-off men. The panel suggests that such "extra labor costs will be computed and will be given pro-rata weight in establishing an equable rate of pay for female workers."

The Board points out that such an adjustment of wage rates is in line with the principle involved when it is necessary to prevent an increase in unit labor costs.

On the other hand, the assignment of the heavy parts of a job to men may be a division of work and a specialization of tasks which may frequently be made without any increase in unit labor costs even though the female employees continue to receive the established rate for the operation. In other words, such a method of performance may permit an increased production which offsets the added cost of the additional employees. In such cases, there is no sound basis for setting a differential rate against the female employee. It is pointed out that such a division of tasks has often been used on jobs manned entirely by male employees as a means of reducing unit costs while maintaining hourly rates. There are sound reasons, therefore, for guarding against the use of the procedure to cut women's rates when the "extra" labor for heavy work does not increase unit costs of production.

Approves State Minimum-Wage Increases

States that have been revising old minimum-wage orders and issuing new ones because of drastic increases in living costs have received assurances from the National War Labor Board that their procedure is consistent with the President's stabilization policy. In issuing General Order No. 7 the Board gave blanket approval of increases in wage and salary rates made in compliance with State minimum-wage statutes and orders. Since minimum-wage laws are designed to establish living wages for women workers, the Board found them to be within the meaning of section 2 of Title II of the President's order which authorizes the Board to approve wage increase necessary to eliminate substandards of living.

Title II, section 1, of Executive Order No. 9250 provides that "No increases in wage rates, granted as a result of voluntary agreement, collective bargaining, conciliation, arbitration, or otherwise, and no decreases in wage rates, shall be authorized unless notice of such increases or decreases shall have been filed with the National War Labor Board, and unless the National War Labor Board has approved such increases or decreases." The Women's Bureau, realizing that the work of the States might be greatly delayed if proposed State minimum-wage orders had to be approved by the Labor Board before issuance, requested the Board to make a ruling exempting from the Executive order wage increases made in compliance with State minimum-wage laws.

The result of this request was the National War Labor Board's General Order No. 7, which reads as follows:

Since Title VI, Section 1 of Executive Order No. 9250, dated October 3, 1942, states that "nothing in this order shall be construed as affecting the present operation of the Fair Labor Standards Act," and since statutes and orders of the duly constituted authorities of the several States fixing minimum rates for certain types of workers carry out the true purposes and intent of the Fair Labor Standards Act, and are designed and intended to eliminate substandards of living within the meaning of section 2 of Title II of Executive Order No. 9250, the National War Labor Board hereby approves increases in wage and salary rates made in compliance with such statutes and orders.

Section 2 of Title II of Executive Order No. 9250, to which order No. 7 refers, provides that, "The National War Labor Board shall not approve any increase in the wage rates prevailing on September 15, 1942, unless such increase is necessary to correct maladjustments or inequalities, to eliminate substandards of living, to correct gross inequities, or to aid in the effective prosecution of the war." The action of the Board leaves State minimum-wage administrators free to proceed as usual to issue wage orders without referral to or approval by the War Labor Board. Moreover, the order again emphasizes the policy of the Federal Government of encouraging wherever possible the elimination of living standards detrimental to the health and welfare of the workers. Doubtlessly the work of the minimum-wage States will be greatly accelerated because of the unconditional approval given by the War Labor Board of wage increases ordered by State minimum-wage agencies.

Employment and Pay Rolls in September 1942

The total number of employees in nonagricultural establishments reached a new all-time peak of 38,303,000 in September. This represented a gain of 501,000 since August 1942 and about 2¼ million since September a year ago. About three-fourths of this 2¼ million employment increase was in manufacturing which reported a gain of 1,664,000. The outstanding employment decline over the year was in trade (446,000), reflecting the effect of Government restrictions.

About half of the increase over the month interval was in manufacturing industries (255,000). Federal, State, and local Government employment increased by 223,000, of which about ⅘ occurred in State and local government, chiefly as a result of teachers returning to work with the reopening of schools after the summer vacation. Despite Government restrictions affecting the manufacture and sale of civilian goods, a seasonal increase in retail trade offset a contraseasonal decrease in wholesale trade sufficiently to cause a net gain of 66,000 in the group as a whole. The finance-service-miscellaneous division reported 20,000 more employees on its pay rolls and the transportation-public utilities group, 6,000 more. Construction employment (including Federal force account construction) fell off 62,000, due primarily to recessions in private building. Mining employment was reduced by 7,000, due largely to decreases in metal mining.

Manufacturing.—Durable-goods employment increased by more than 100,000 wage earners in September, due chiefly to continued expansion in such strategic industries as shipbuilding, aircraft, automobiles, electrical machinery, engines, and radios. The gain of 4.4 percent or 17,700 workers in the automobile industry was the fifth successive monthly increase, indicating rapidly rising war production in converted automobile plants. A larger-than-seasonal gain of 30.5 percent (71,800 workers) in canning was chiefly responsible for the increase of 1.6 percent (77,700) in the nondurable-goods group. Many industries continued to report employment declines, due primarily to material shortages and freeze orders.

Construction.—2,230,000 workers were employed in September on construction projects financed wholly or in part from Federal funds. Their pay rolls for the month totaled $429,496,000.

Hours of Work and Earnings in Manufacturing Industries

Preliminary September average weekly earnings, average weekly hours, and average hourly earnings are listed below for each of five durable- and five nondurable-goods industries. Similar information for all manufacturing industries combined, for the durable-goods group as a whole, and for nondurable-goods group as a whole, not now available, will be contained in the regular monthly mimeographed release of the Bureau of Labor Statistics on hours and earnings. This will be supplied on request in the latter part of November.

Wage-rate increases between August 16 and September 15 averaging 7.4 percent and affecting 700,000 factory wage earners were reported by 1,500 manufacturing establishments out of a reporting sample of about 35,000 establishments employing 9,000,000 workers. Most of the wage earners receiving wage-rate increases were in the following manufacturing industries: Cotton goods, electrical machinery, steel, and engines.

Average hours and earnings in selected manufacturing industries, September 1942 (preliminary)

Industry	Average Weekly Earnings	Average Weekly Hours	Average Hourly Earnings
Durable Goods			
	Dollars		*Cents*
Blast furnaces, steel works and rolling mills	43. 67	41. 1	106. 2
Foundries and machine shops	44. 95	47. 4	94. 6
Aircraft	46. 25	47. 1	99. 1
Sawmills	26. 84	40. 6	66. 4
Brick, tile, and terra cotta	27. 37	39. 0	70. 3
Nondurable goods			
Cotton goods	23. 15	42. 3	54. 6
Boots and shoes	27. 27	36. 8	68. 6
Slaughtering and meat packing	32. 59	40. 2	81. 6
Paper and pulp	33. 64	41. 5	80. 8
Petroleum refining	45. 19	38. 7	117. 1

Estimated wage-earner employment and pay rolls in manufacturing industries, September 1942, August 1942, and September 1941

	Number of workers employed			Amount of weekly pay roll		
	September 1942 [1]	August 1942 [2]	September 1941	September 1942 [1]	August 1942 [2]	September 1941
ALL INDUSTRIES [3]	**11,698,100**	**11,513,900**	**10,674,400**	**$418,333,000**	**$407,435,000**	**$308,529,000**
Durable groups [3]	*6,477,700*	*6,371,200*	*5,473,400*	*275,424,000*	*267,235,000*	*183,642,000*
Iron and steel	1,199,600	1,202,600	1,253,900	49,411,000	48,836,000	43,385,000
Machinery	1,955,200	1,922,800	1,587,700	89,382,000	87,481,000	59,487,000
Transportation	1,839,400	1,753,500	1,077,000	95,584,000	89,355,000	43,542,000
Nonferrous	374,200	371,500	365,000	15,504,000	15,221,000	12,182,000
Lumber	656,400	669,300	731,200	17,147,000	17,752,000	16,627,000
Stone—Clay—Glass	323,300	324,000	356,500	9,195,000	9,365,000	9,358,000
Nondurable groups [3]	*5,220,400*	*5,142,700*	*5,201,000*	*142,909,000*	*140,200,000*	*124,887,000*
Textiles	1,772,700	1,786,600	1,881,900	40,836,000	41,529,000	39,074,000
Leather	295,800	304,500	320,100	7,722,000	7,502,000	7,100,000
Food	1,191,600	1,112,500	1,084,300	31,756,000	29,836,000	25,858,000
Tobacco	92,600	91,700	88,500	1,863,000	1,872,000	1,567,000
Paper and printing	609,400	610,600	663,300	19,372,000	19,305,000	19,813,000
Chemicals	541,500	529,800	489,300	20,385,000	19,677,000	12,376,000
Rubber	144,200	141,200	149,700	5,465,000	5,340,000	4,676,000
Unclassified	572,600	565,800	523,900	15,510,000	15,139,000	14,423,000

[1] *Preliminary.*
[2] *Revised.*
[3] *Major groups adjusted to 1939 Census of Manufactures. Because the subgroups have not been similarly adjusted, and because of overlapping, the totals of the subgroups under durable goods do not agree with the total for the group as a whole.*

Employment, pay rolls, hours, and earnings in selected nonmanufacturing industries (preliminary)

Item	September 1942	Percentage change from August 1942	Percentage change from September 1941
Retail trade			
Employment	3,510,700	+2.6	−8.3
Weekly pay roll	$81,795,000	+2.1	−2.6
Weekly hours	41.0	−2.5	−3.8
Hourly earnings	$0.62	+1.1	+9.2
Weekly earnings	$23.53	−.5	+6.2
Wholesale trade			
Employment	1,434,900	−.9	−6.5
Weekly pay roll	$53,314,000	+.3	+1.3
Weekly hours	40.9	+[1]	+[1]
Hourly earnings	$0.88	+1.1	+8.2
Weekly earnings	$36.43	+1.2	+8.3
Bituminous coal			
Employment	420,600	−.6	−2.6
Weekly pay roll	$13,475,000	+2.8	+5.6
Weekly hours	33.3	+3.8	+4.2
Hourly earnings	$1.06	+.1	+5.2
Weekly earnings	$35.30	+3.4	+8.4
Metal mining			
Employment	86,100	−3.0	−1.3
Weekly pay roll	$3,387,000	−3.0	+20.3
Weekly hours	45.6	+.1	+9.7
Hourly earnings	$0.90	−.1	+10.7
Weekly earnings	$41.20	−.1	+22.0
Telephone and telegraph			
Employment	472,900	+[1]	+3.9
Weekly pay roll	$16,718,000	+4.0	+12.9
Weekly hours	42.2	+3.6	+4.6
Hourly earnings	$0.82	+.4	+4.0
Weekly earnings	$34.51	+4.0	+8.7
Power and light			
Employment	230,800	−2.1	−11.4
Weekly pay roll	$9,318,000	−.8	−2.6
Weekly hours	40.0	+.1	+.6
Hourly earnings	$0.99	+.6	+8.3
Weekly earnings	$40.16	+1.4	+9.9
Street railways and busses			
Employment	211,300	+.4	+7.2
Weekly pay roll	$8,751,000	+.2	+20.4
Weekly hours	48.1	−.9	+3.6
Hourly earnings	$0.83	+.3	+7.8
Weekly earnings	$40.40	−.1	+12.3
Hotels			
Employment	271,400	−.5	−2.8
Weekly pay roll	$4,835,000	+.9	+8.4
Weekly hours	45.4	−.4	+.6
Hourly earnings	$0.39	+1.5	+11.2
Weekly earnings	$18.01	+1.5	+11.5
Laundries			
Employment	270,400	−.4	+3.6
Weekly pay roll	$5,128,000	+.8	+12.0
Weekly hours	43.1	−.1	−.1
Hourly earnings	$0.49	+1.5	+8.4
Weekly earnings	$21.11	+1.2	+8.1
Dyeing and cleaning			
Employment	72,200	−.4	+1.4
Weekly pay roll	$1,567,000	+2.0	+9.0
Weekly hours	43.0	+.4	−3.0
Hourly earnings	$0.59	+2.3	+12.5
Weekly earnings	$24.54	+2.4	+7.5

[1] *Less than 1/10 of 1 percent.*

Cost of Living in September 1942

The upward drift of retail prices continued from August 15 to September 15, 1942, and living costs rose 0.3 percent. Between mid-May when the General Maximum Price Regulation became effective and mid-September, the rise was 1.5 percent. Prices, particularly food prices, increased further between September 15 and October 3, when the Economic Stabilization Order froze living costs at a level about 20 percent higher than in August 1939, the month before the outbreak of war in Europe. During the last war, the rise over the same period was 30 percent.

Food costs of the city worker's family rose 0.4 percent from mid-August to mid-September. Prices of foods not under direct control continued to rise rapidly. Substantial seasonal decreases in costs of fresh fruits and vegetables held down the total increase in uncontrolled foods to 0.4 percent, bringing the rise from May 15 to a total of 10.2 percent. Foods controlled by the Office of Price Administration were, on the average, 0.5 percent higher than in May. Increases reported for beef, lamb, and pork between August and September were less than is usual at this time of year.

Clothing prices showed general increases from August to September. Fall and winter coats were 6 to 14 percent higher in price than last year. Prices of year-around goods were mostly unchanged in price with scattered decreases in some cities during special sales. House furnishings rose over the month with higher blanket prices reported in most cities, while prices of sheets rose in some localities and declined in others.

Rental costs to moderate-income families in the large cities remained unchanged over the month ending September 15, although declines occurred in 8 of the 21 cities from which quotations are collected each month. Rent ceilings under Federal control had been established earlier in the year in 7 of these 8 cities.

Cost of living in 21 large cities

Area and city	Index as of Sept. 15, 1942 (1935–39=100)	Percentage change— June 15, 1942, to Sept. 15, 1942	Sept. 15, 1941, to Sept. 15, 1942	Aug. 15, 1939, to Sept. 15, 1942
Average: 34 large cities	**117.8**	**+1.2**	**+9.0**	**+19.5**
North Atlantic:				
Boston	116.2	+2.0	+9.2	+19.7
Buffalo	120.5	−.3	+8.7	+22.3
New York	116.3	+1.8	+8.9	+17.5
Philadelphia	116.9	+1.7	+9.6	+19.5
Pittsburgh	117.5	+.5	+8.1	+19.4
South Atlantic:				
Baltimore	119.8	+.5	+9.4	+21.4
Savannah	122.1	+1.6	+10.5	+23.0
Washington, D. C.	117.1	+1.4	+9.7	+18.8
North Central:				
Chicago	117.4	+.9	+7.2	+18.9
Cincinnati	118.0	+1.0	+9.2	+21.3
Cleveland	119.6	+[1].1	+7.8	+19.6
Detroit	118.4	−[2].1	+8.0	+20.2
Kansas City	114.7	+.5	+8.8	+16.3
Minneapolis	116.8	+.8	+7.2	+17.2
St. Louis	116.6	([3])	+8.2	+18.9
South Central:				
Birmingham	118.8	+1.5	+8.1	+20.6
Houston	118.0	+2.0	+9.4	+17.2
Western:				
Denver	117.2	+1.3	+10.6	+18.9
Los Angeles	121.7	+2.6	+12.6	+21.1
San Francisco	120.9	+2.5	+12.2	+21.8
Seattle	122.7	+2.9	+10.0	+22.3

[1] *Index for June revised: 119.5.*
[2] *Index for June revised: 118.5.*
[3] *No change.*

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15, to 15,	Aug. 15, 1939, to Sept. 15, 1942
0	+19.5
2	+19.7
7	+22.3
9	+17.5
6	+19.5
1	+19.4
4	+21.4
5	+23.0
7	+18.8
2	+18.9
2	+21.3
3	+19.6
9	+20.2
5	+16.3
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